SOUND REINFORCEMENT MOLDED LOUDSPEAKER

P(A)450/550

USER'S MANUAL

PHONIC

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SOUND REINFORCEMENT MOLDED LOUDSPEAKER

P(A)450/550

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INTRODUCTION

Thank you for purchasing the Phonic' s P450/550 and PA450/550 sound reinforcement molded loudspeaker. The development of these non-powered and powered bi-amplified speaker system is a natural extension of Phonic' s extensive experience and knowledge of professional audio equipments. These speakers truthfully reproduce sound for a wide range of applications. Please take some time to go through this manual for best performance as well as longest possible operation life from your P450/550 and PA450/550. And remember to keep it safely for future reference.

FEATURES

P450 and PA450

- Frequency response: 50Hz ~ 20KHz
- 12" long-throw low frequency transducer
- High SPL Output/Low Distortion
- Multi-cell high-dispersion horn with ultra-wide audience coverage (90°x45°)
- Precision titanium compression driver
- Ergonomic handles for easy transport
- Stackable, stand mountable and arrayable
- Reclines for use as a stage monitor
- Tough, impact-resistant, lightweight molded enclosure

P450

- 250 watts (RMS) / 500 watts (program) power handling
- High sound pressure level, 96dB SPL @ 1W/ 1M
- Speakon and 1/4" jack connectors included

PA450

- 330 watts RMS (250W LF/80W HF) delivered to the internal transducers
- Built-in precision 24dB/oct. Linkwitz-Riley electronic crossover
- 3-input mixer, 2-band EQ and link out
- Maximum sound pressure level: 121 dB SPL @ 1M
- Electronic Time Correction, Phase Alignment, & Equalization

P550 and PA550

- Frequency response: 40Hz ~ 20KHz
- 15" long-throw low frequency transducer
- High SPL Output/Low Distortion
- Multi-cell high-dispersion horn with ultra-wide audience coverage (90°x45°)
- Precision titanium compression driver
- Ergonomic handles for easy transport
- Stackable, stand mountable and arrayable
- Reclines for use as a stage monitor
- Tough, impact-resistant, lightweight molded enclosure

P550

- 300 watts (RMS) / 600 watts (program) power handling
- High sound pressure level, 98dB SPL @ 1W/ 1M
- Speakon and 1/4" jack connectors included

PA550

- 400 watts RMS (300W LF/100W HF) delivered to the internal transducers
- Built-in precision 24dB/oct. Linkwitz-Riley electronic crossover
- Maximum sound pressure level: 124 dB SPL @ 1M
- 3-input mixer, 2-band EQ and link out
- Electronic Time Correction, Phase Alignment, & Equalization

PRECAUTIONS

Place the system near a power outlet so you can easily plug it in.

Connect the included power cord only to an AC outlet of the type stated in this manual or printed on the system.

Hold the power cord plug when disconnecting it from an AC outlet. Never pull the cord in case you damage it.

Do not scratch, bend, twist, pull, or heat the power cord. Do not place heavy objects, including this unit, on top of the power cord. Be careful not to place heavy objects on a power cord covered by a carpet, either. A damaged power cord can easily cause fire or electrical shock hazard.

If the power cord is damaged (i.e., cut or a bare wire is exposed), ask the local dealer for a replacement. Using the unit with a damaged power cord can easily cause fire or electrical shock hazard.

Do not touch the power plug with wet hands. Doing so may lead to potential electrical shock hazard.

Should this unit be dropped or the cabinet be damaged, turn the power switch off immediately. Then remove the power plug from the AC outlet, and contact the local dealer. If you ignore it and continue to use the unit without following this instruction, fire or electrical shock is a very likely result.

If you smell anything, or notice any abnormality, such as smoke, odor, or noise, or if a foreign object or liquid gets inside the unit, turn it off immediately. Remove the power cord from the ACoutlet. Consult your dealer for repair. Using the unit in this condition could easily cause fire or electrical shock hazard.

Turn off all audio equipment and speakers when connecting to this unit. Use the correct connecting cables and connect as specified.

Always lower the volume control to the minimum level before turning power on. A sudden blast of sound may cause hearing discomfort.

When rack-mounting the unit, allow enough free space around the unit for normal ventilation.

For normal ventilation during operation, remove the rear of the rack or open a ventilation hole. If the airflow is not adequate, the unit will heat up inside and may cause fire.

If you stack the speakers, secure the handles of the speakers by using a belt and fix the speakers to the floor or wall to prevent them from falling and causing injury. Without safety protection in advance, do not stack more than two speakers.

Do not use the handles to suspend the speaker; it may otherwise fall and cause injury.

XLR-type connectors are wired as follows: pin 1=ground, pin 2=hot(+), and pin 3=cold(-).

Using a mobile telephone near this unit may induce noise. If noise occurs, take the telephone away from the unit.

Do not use the speaker at uncomfortably loud level that may cause hearing discomfort.

Do not allow water to spill into this system or allow the unit to become wet, which may result in electrical shock.

Do not place a container with liquid or small metal objects on top of this system. Liquid or metal objects inside this system are could easily cause fire or electrical shock hazard.

Do not remove the unit' s cover. You would likely receive an electrical shock. If internal inspection, maintenance, or repair is necessary, please refer to your dealer.

Do not modify the unit under any circumstance. Doing so can easily cause fire or electrical shock hazard.

MAINTENANCE

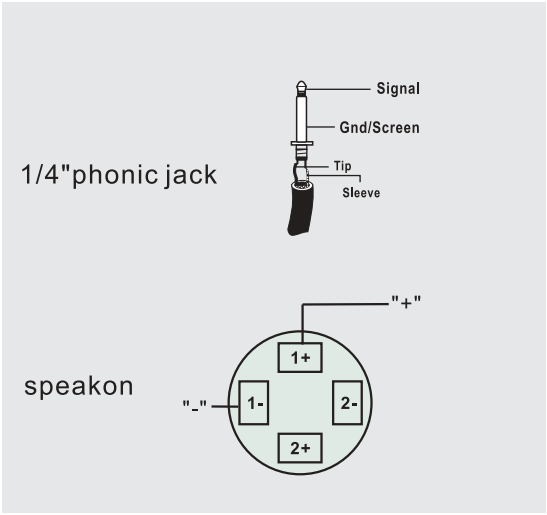
These speakers are high quality units made especially according to Phonic specification. Overpowering the unit or overheating it because of improper system arrangement could harm the unit. For longest possible operating life, it is recommended that there is at least a few inches away from the wall when you place the active version speaker against it. Please also avoid exposing the speaker to moisture or extreme cold weather condition. Do not put the speaker anywhere near water--swimming pool, swamp, kitchen sink, laundry tub, bathtub, or a wet basement. Use a damp cloth to clean the cabinets.

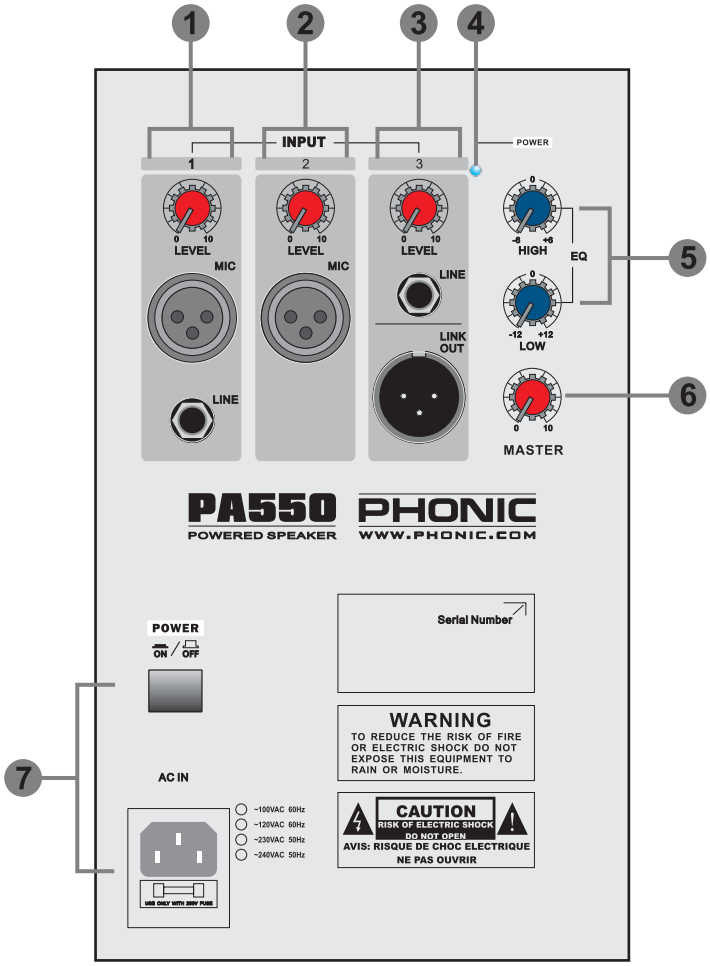
Replacement diaphragms and re-cone kit can be ordered from local dealers. Please contact your Phonic dealer when they are needed. Only identical parts should be used for replacement. Phonic takes no responsibility for improper repair, replacement, or any other services conducted by unqualified technician.

P450 / 550

P450/P550 speaker accepts either 4-pin speakon connector or 1/4" phone jack, and are always parallel connected. Only Pin 1+ and Pin 1- are used in the speakon connector, and wired as follow: Pin1+ for "+" and Pin1- for "-".

Please see the following illustration for connection.





PA450 / 550

1. INPUT 1

A balanced XLR connector for microphone, and a balanced 1/4" phone jack for line input source provide flexible connection for different kinds of input sources. A level control adjusts the final level of the input from INPUT 1.

2. INPUT 2

INPUT 2 comes with one balanced XLR connector for microphone input. There is a built-in low cut filter in the signal path of INPUT 2 for eliminating stage rombling. A level control adjusts the final level of the input from INPUT 2.

3. INPUT 3

INPUT 3 comes with one 1/4" phone jack for line source. A level control adjusts the final level of the input from INPUT 3. One link out XLR connector is also provided for connecting to another PA550/450 or speaker system as chain arraying.

4. POWER INDICATOR

This red LED indicator light up whenever the power in being turned on.

5. EQ OCNTROL

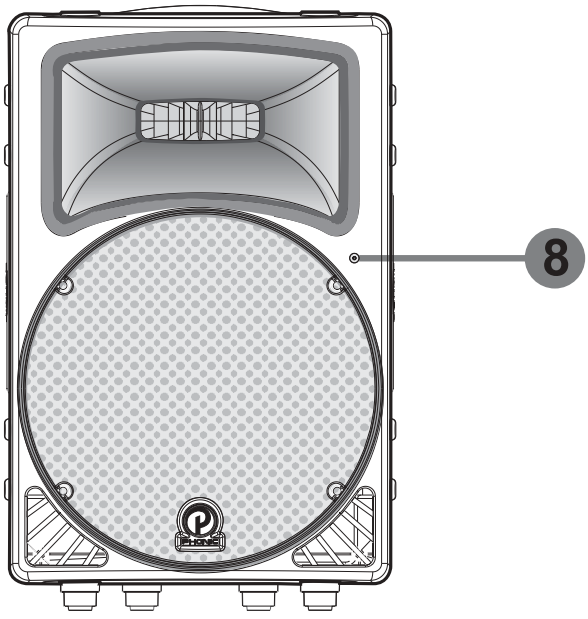
High frequency level control provides a boost or cut of 6dB for tweeter output. Low frequency level control provides a boost or cut of 12dB for woofer output. Turn the control clockwise to boost the level, counter-clockwise to cut it.

6. MASTER LEVEL CONTROL

This control enables you to adjust the total volume level.

7. POWER SWITCH AND AC IN CONNECTOR

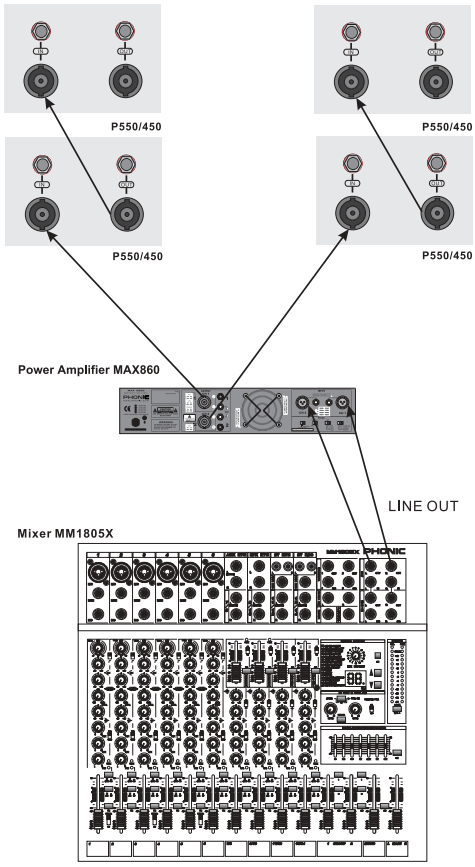
Connect the included power cord into the connector before pressing on the switch to turn on the system. Both LED indicators in the back and in the front will light up.



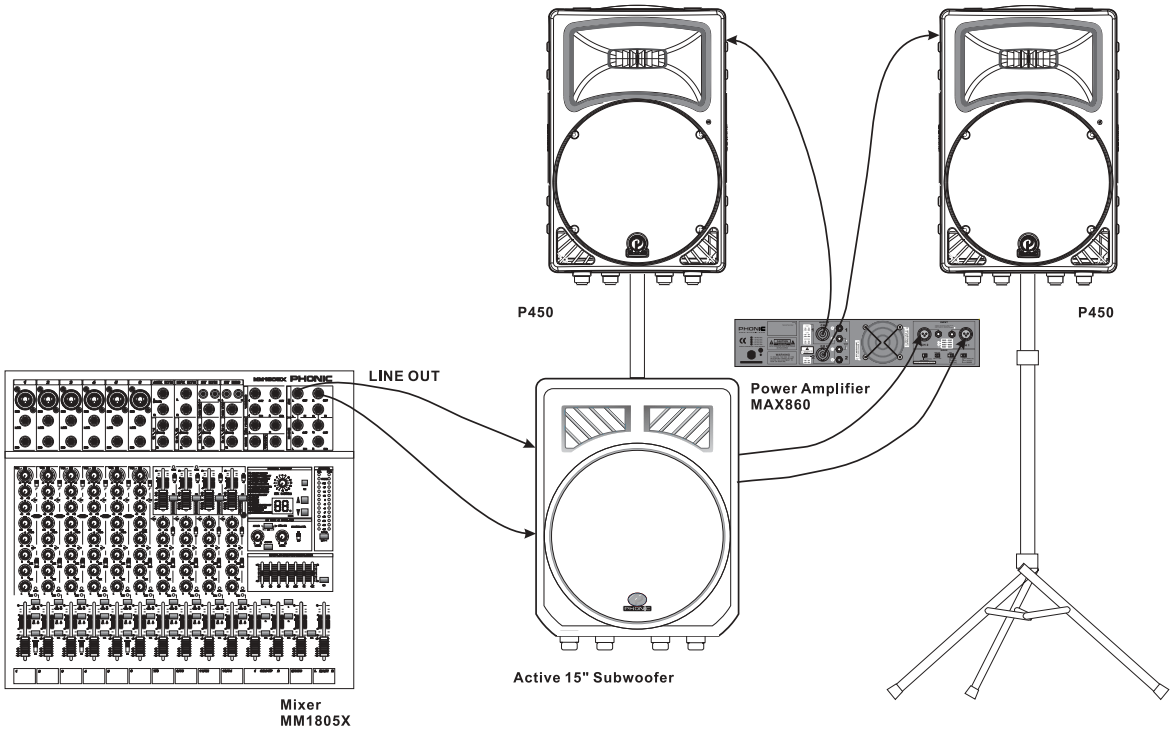
8. POWER /OVERLOAD INDICATOR

This bi-color indicator at the right-hand side of front panel light up in green when power is being turned on, in red when overload happens.

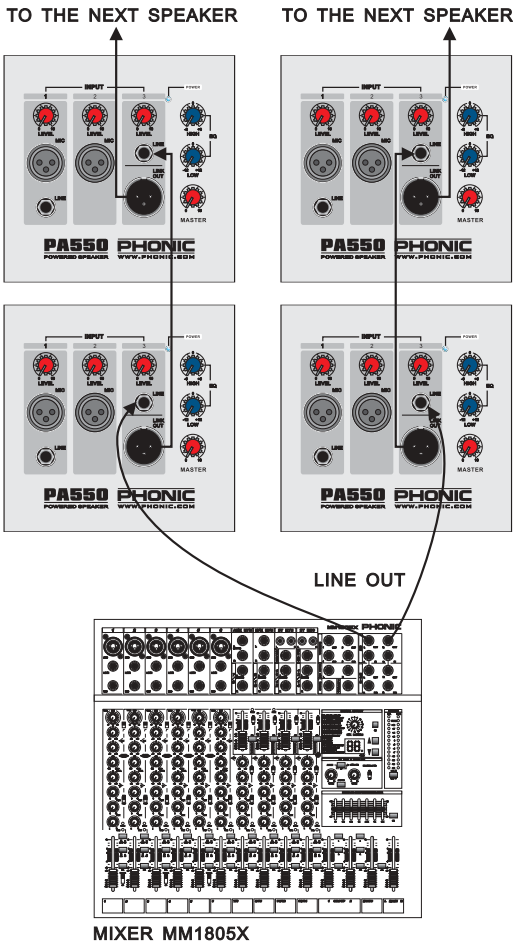
STEREO SETUP



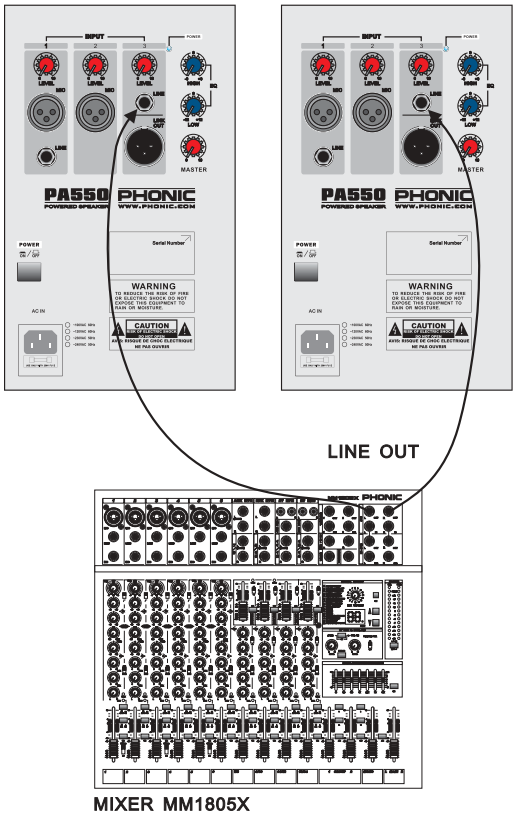
STERO SETUP WITH ONE ACTIVE SUBWOOFER



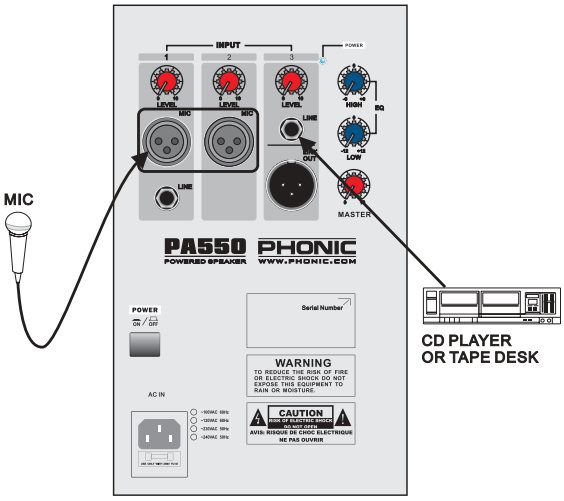
DAISY CHAINING



STEREO SETUP

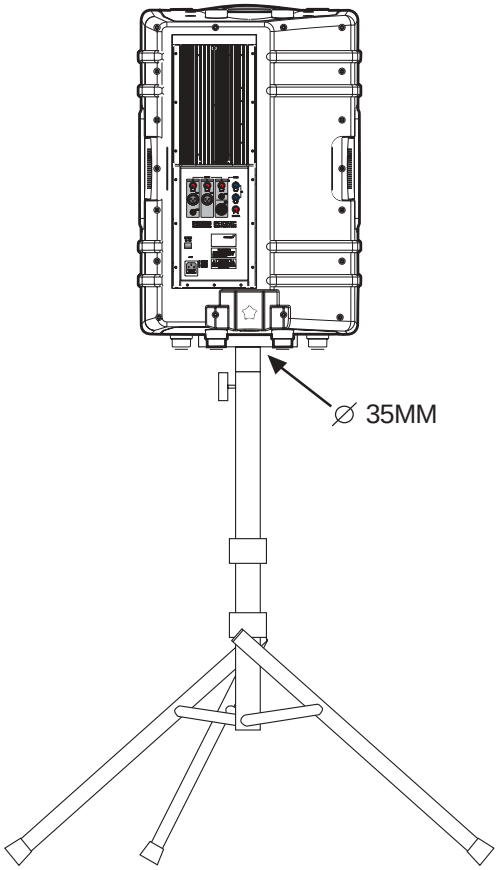


SPEECH (Without external mixer)

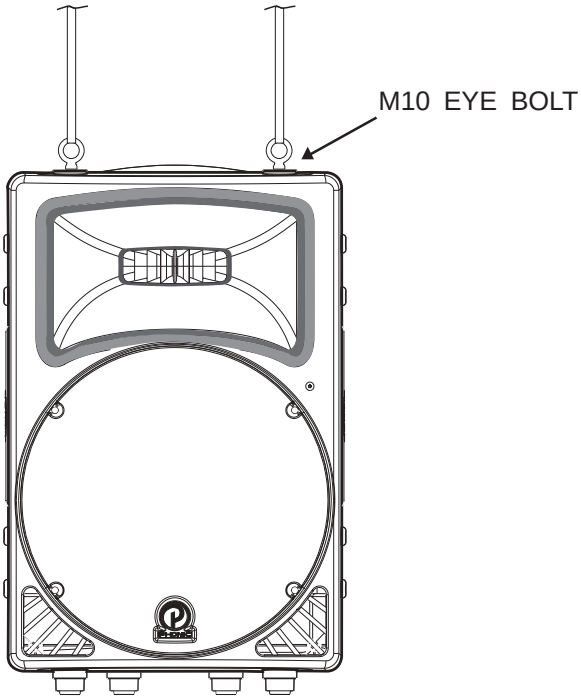


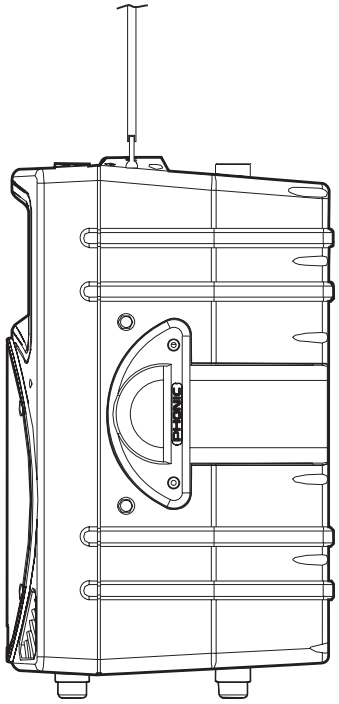
Speaker can be stand mounted with PHONIC S2 speaker stand(optional)

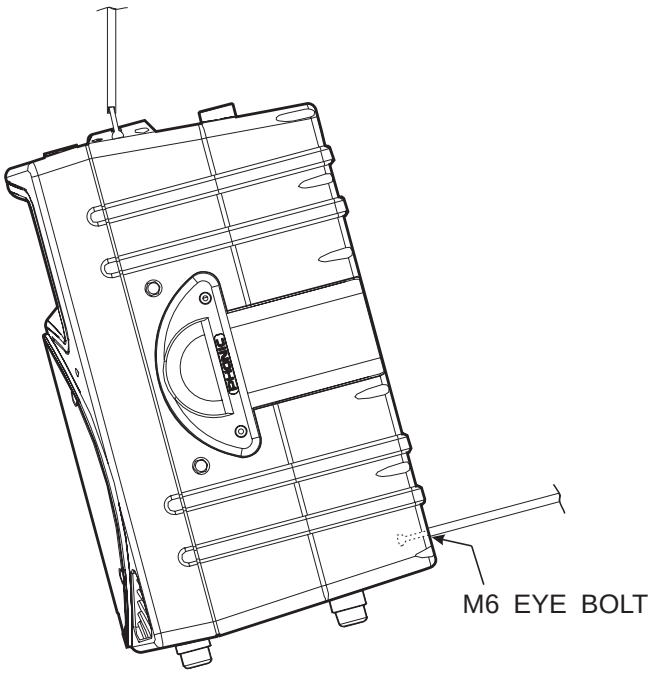
- Place it on a level, non-slippery, sturdy surface.
- Spread the legs of the stand to the maximum extent.
- Be sure to fix the stand so that it will not fall. (For example, you could place a sand bag on the tripod legs to add weight for stability)



CEILING SUSPENDING WITH M10 EYE BOLTS



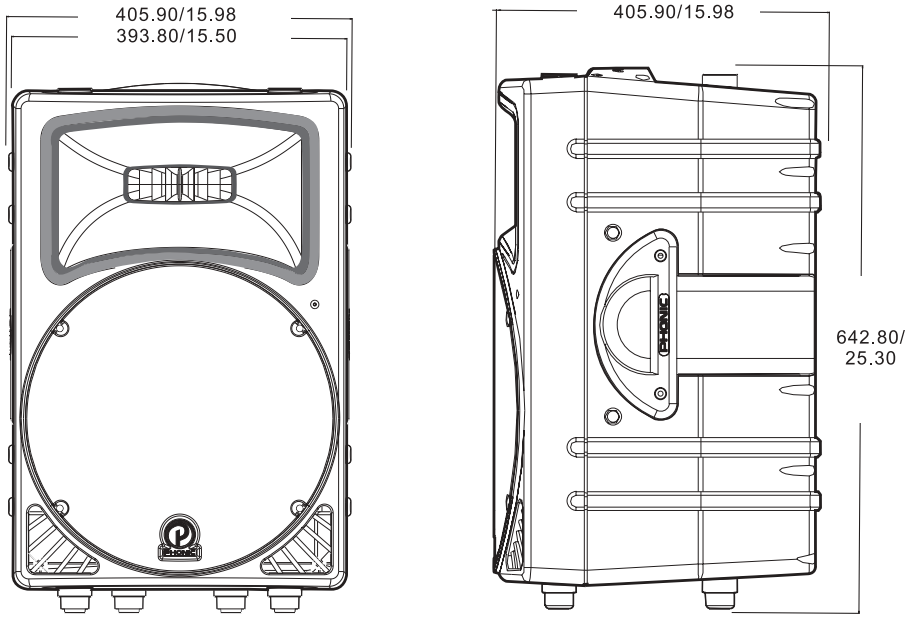




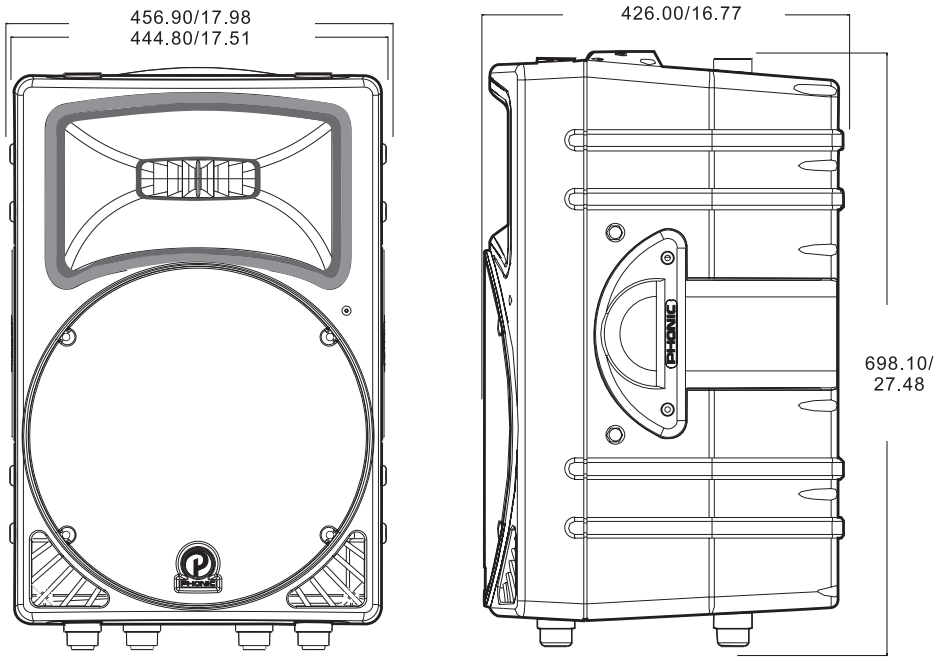
Speaker can be set a desired angle by using M6 eye bolt.

DIMENSIONS

P450 / PA450

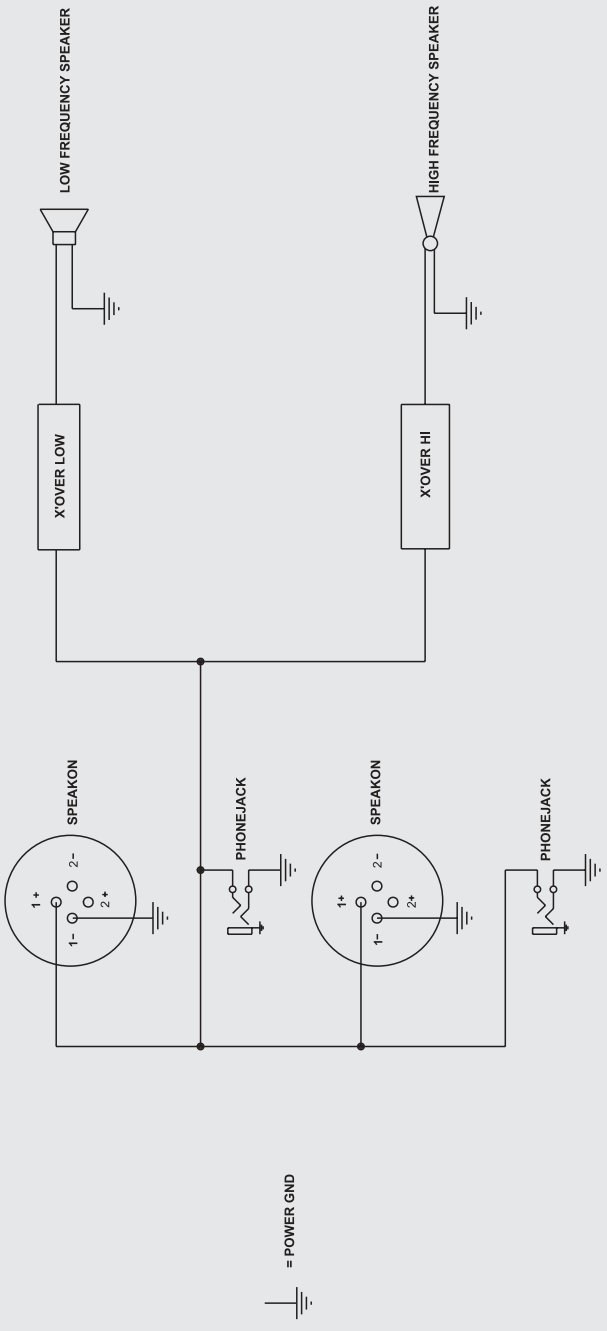


P550 / PA550

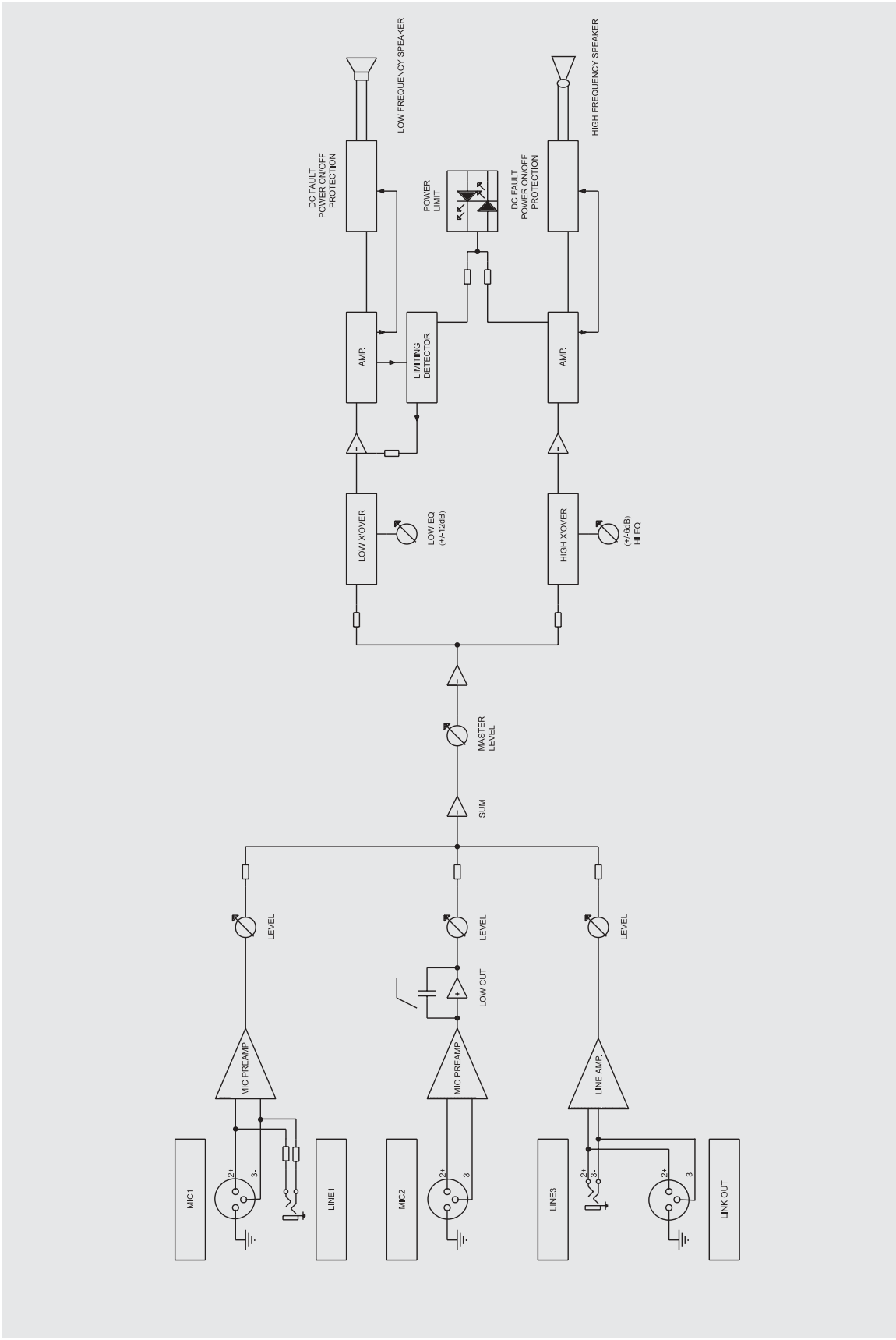


Dimensions are showen in mm / inches.

BLOCK DIAGRAM-P450/550



BLOCK DIAGRAM-PA450/550



SPECIFICATIONS

	P450 / PA450	P550 / PA550
Woofer	12"	15"
Tweeter	1"	
Horn dispersion angles (degree)	90 x 45	
Frequency response	50Hz~20KHz	40Hz~20KHz
Appearance		
Handle	2 on both sides, 1 on top	
Flying points	9 (8x M10 & 1x M6)	
Mount standable	35mm speaker stand socket	
Stackable	Y	
Stage monitor version	Y	
Ceiling version	Optional bracket	
Wall version	Optional bracket	
Dimensions (HxWxD)	25.6"x16"x16" (650x406x406 mm)	27.8"x18"x18.2" (706x457x462mm)
Passive version	**P450**	**P550**
Power handling (RMS / Program)	250W / 500W	300W / 600W
Sensitivity @ 1W/1M	96 dB SPL, +/- 2dB	98 dB SPL, +/- 2dB
Connectors	2x Speakons, 2x 1/4" Phone jacks	
Weight	50.6 lbs (23 kg)	61.6 lbs (28 kg)
Active version	**PA450**	**PA550**
Total amplifier power (RMS / Program)	330 W / 660 W	400 W / 800 W
Low	250 W / 500W	300 W / 600W
High	80W / 160W	100W / 200W
Indicator		
ON/Overload LED(front panel)	bi-color	
Power LED (rear panel)	Y	
Active crossover	24dB/oct, Linkwitz-Riliey	
Crossover frequency	1.8KHz	
Maximum SPL@1m	121 dB	124 dB
Connectors	2xXLR-F, 1xXLR-M, 2x1/4" Phone jack	
Input sensitivity	Line: +4dB, Mic: -40dB	
Input impedance	Line: 30 K ohms, Mic: 5 K ohms	
Tone control		
Low cut filter	Input channel 2 only	
HIGH for tweeter	+/- 6dB	
LOW for woofer	+/- 12dB	
Built-In limiter	Y	
Protection circuitry	Thermal, Subsonic, RF protection, Output DC Offset, Power on/off muting	
Weight	66 lbs (30 kg)	77 lbs (35 kg)

SUGGESTED READINGS

Phonic recommends the following books for those who are interested in advanced audio engineering and sound system operation:

- Sound System Engineering by Don and Carolyn Davis, Focal Press, ISBN: 0-240-80305-1
- Sound Reinforcement Handbook by Gary D. Davis, Hal Leonard Publishing Corporation, ISBN: 0-88188-900-8
- Audio System Design and Installation by Philip Giddings, Focal Press, ISBN: 0-240-80286-1
- Practical Recording Techniques by Bruce and Jenny Bartlett, Focal Press, ISBN: 0-240-80306-X
- Modern Recording Techniques by Huber & Runstein, Focal Press, ISBN: 0-240-80308-6
- Sound Advice “The Musician’s Guide to the Recording Studio by Wayne Wadham, Schirmer Books, ISBN: 0-02-872694-4
- Professional Microphone Techniques by David Mills Huber, Philip Williams. Hal Leonard Publishing Corporation, ISBN: 0-87288-685-9
- Anatomy of a Home Studio: How Everything Really Works, from Microphones to Midi by Scott Wilkinson, Steve Oppenheimer, Mark Isham. Mix Books, ISBN: 091837121X
- Live Sound Reinforcement: A Comprehensive Guide to P.A. and Music Reinforcement Systems and Technology by Scott Hunter Stark. Mix Books, ISBN: 0918371074
- Audiopro Home Recording Course Vol 1: A Comprehensive Multimedia Audio Recording Text by Bill Gibson. Mix Books, ISBN: 0918371104
- Audiopro Home Recording Course Vol. 2: A Comprehensive Multimedia Audio Recording Text by Bill Gibson. Mix Books, ISBN: 0918371201

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